



The Scottish Mathematical Council

www.scot-maths.co.uk

MATHEMATICAL CHALLENGE 2016–2017

Entries must be the unaided efforts of individual pupils.

Solutions must include explanations and answers without explanation will be given no credit.

Do not feel that you must hand in answers to all the questions.

CURRENT AND RECENT SPONSORS OF MATHEMATICAL CHALLENGE ARE

The Edinburgh Mathematical Society, The Maxwell Foundation, Professor L E Fraenkel,

The London Mathematical Society and The Scottish International Education Trust.

The Scottish Mathematical Council is indebted to the above for their generous support and gratefully acknowledges financial and other assistance from schools, universities and education authorities.

Particular thanks are due to the Universities of Aberdeen, Edinburgh, Glasgow, Heriot Watt, St Andrews, Stirling, Strathclyde and to Bearsden Academy, Kelvinside Academy and Northfield Academy.

Primary Division: Problems III

- P3.1.** Alice put some 10p coins on the table. Half of them were tails up. Alice turned over two of the coins, and then one third of them were tails up.

How many coins did Alice put on the table?

- P3.2.** Colin and Tom are on a camping holiday and, at their campsite, they make friends with Fiona. They ask her when her birthday is but, being a bit of a joker, Fiona tells them only that it is one of the following dates.

May 14,	May 15,	May 18,	June 16,	June 19,
July 12,	July 15,	August 12,	August 14,	August 16.

She then tells Colin the month of her birthday, but not the day in the month, whilst she tells Tom the day in the month, but not the month.

Immediately, Colin declares “Well, Tom certainly cannot know for sure when Fiona's birthday is” to which Tom replies “Ah, but now I do.” “And now I know when it is as well,” comes back Colin.

When is Fiona's birthday? **Explain your reasoning.**

- P3.3.** The pages of George's book are numbered from 1. The page numbers have a total of 555 digits. How many pages does the book have?

END OF PROBLEM SET III

CLOSING DATE FOR RECEIPT OF SOLUTIONS :

Friday 3 February 2017

Look on the SMC web site: www.scot-maths.co.uk for information about Mathematical Challenge.



Mathematical Challenge Problems III

PRIMARY DIVISION

2016-2017

PLEASE USE CAPITALS TO COMPLETE

SURNAME

OTHER NAME(S)
(underline the one
you prefer)

SCHOOL

AGE

YEAR OF STUDY

FOR OFFICIAL USE

Marker

Marks

1	2	3	Total

— — — — - C U T A L O N G H E R E — — — —

Please write your solutions on A4 paper and staple the above form to them.

PLEASE WRITE YOUR NAME ON EVERY PAGE.

Send your entry through your school to the organiser of the section.

For further information on the competition, please see the Information Circular, which has been distributed to all primary schools. Please contact the local organiser, whose name and address are given above, or go to the web site if you require a further copy.
